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## Successful therapeutic management of neonatal tetanus in goat

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**Abstract**

A fifteen days old Osmanabadi kid was presented to Teaching Veterinary Clinical Complex, College of Veterinary and Animal Sciences, Parbhani with history of anorexia, stiffness in hind limbs, opisthotonus, anuria and absence of defecation. After taking detailed history, it was revealed that they did unhygienic cutting of umbilical cord after birth. On clinical examination kid showed stiffness in hind limbs, trismus, opisthotonus, wooden horse appearance and prolapse of third eye lid. The physiological parameters revealed that the rectal temperature was 102 °F, respiration rate 24/ minutes and pulse rate 125/ minute. On the basis of history and clinical examination, the case was diagnosed as Neonatal Tetanus. The kid was treated with Tetanus Antitoxin and Procaine penicillin thrice a day and supportive therapy of Deriphylline, Meloxicam, Multivitamin, Diazepam and saline dextrose for seven days. Clinical improvement was seen on second day onwards after treatment as movement in limbs, improvement in feeding, normal urination & defecation.

**Keywords:** kid, neonatal tetanus, unhygienic practice

**Introduction**

Tetanus is a non-contagious, non-febrile, infectious disease of mammals affected by exotoxins. It is characterized by spasmodic contractions of skeletal muscles and death in affected animals. Neonatal tetanus occurs when there is infection in the umbilical cord associated with unsanitary condition at parturition (Constable *et al.*, 2017) [1]. Typically, tetanus is a toxemia caused by neurotoxin produced under anaerobic conditions by *Clostridium tetani*. *Bacillus Cl. tetani* is a gram positive, rod shape, spore forming, anaerobic bacteria. This condition occurs in all farm animals, mainly as sporadic cases. The spore of the bacteria is found widely in both soil and animal faeces. Horses are highly sensitive to the disease, followed by sheep and goat, while dogs and cat are relatively resistant (Parmar, 2015) [4]. Most commonly occurs in lambs, kids, calves and rarely occurs in adults. Goats are very susceptible to the disease (Mohamad *et al.*, 2013) [3]. Infection occurs as a result of contamination of wounds or enclosed cavities by the spores of *C. tetani*. In anaerobic conditions these spores convert to the vegetative forms, capable of life producing fetal toxins as tetanolysin, tetanospasmin and neurotoxin or nonspasmolytic toxin (Constable *et al.*, 2017) [1]. It is possible to keep the animal alive by using tetanus antitoxin, a muscle relaxant, antibiotics and supportive drugs.

**Case history**

A fifteen days old Osmanabadi kid was presented to Teaching Veterinary Clinical Complex, College of Veterinary and Animal Sciences, Parbhani with complaint of anorexia, inability of sucking milk, in-coordinated gait, stiffness in hind limbs, opisthotonus, anuria and absence of defecation. After taking detailed history, owner told that they did unhygienic and unsanitary cutting of umbilical cord after birth.

**Clinical findings**

On clinical examination kid showed stiffness in hind limbs, trismus (lock jaw), opisthotonus towards right side, hyperesthesia, wooden horse appearance (saw horse stance) (Fig. 1) and prolapse of third eye lid (Selvam *et al.*, 2009, Dhanvael, 2012, Mohamad *et al.*, 2013, Palmar *et al.*, 2015) [5, 2, 3, 4]. The physiological parameters revealed that the rectal temperature was 102 °F and respiration rate-24 breath per minutes while slight increase in pulse rate-125 beats per minute. There was swelling and wound on umbilicus (Fig. 2).

### Diagnosis

On the basis of history of unhygienic cutting of umbilical cord and typical clinical symptoms of tetanus the case was diagnosed as Neonatal Tetanus.

### Treatment

The kid was treated with Inj. Procaine penicillin @ 44000 IU/kg B.W. IM thrice a day and Tetanus antitoxin @ 10000 IU IM. Supportive therapy of Inj. Deriphylline @ 1 mg/kg BW IV, Inj. Meloxicam @ 0.5 mg/kg BW IM, Inj. Multivitamin @ 1 ml IM, Inj. Diazepam @ 0.5 mg/kg BW IV and saline dextrose 5 % @ 10 ml/kg IV for seven days (Constable *et al.*, 2017; Rashid *et al.*, 2017, Samal *et al.*, 2017)<sup>[1, 7, 8]</sup>.

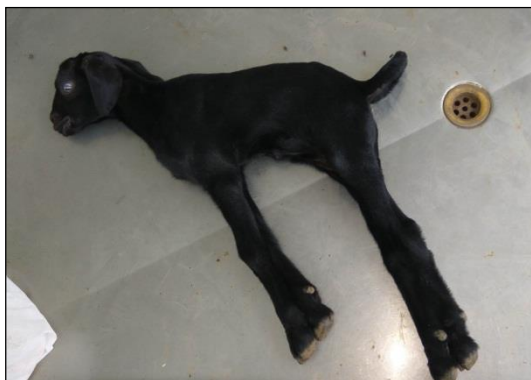


Fig 1: Horse Saw Posture



Fig 2: Wound on Umbilicus

### Result & Discussion

When this spore forming rod is confined to oxygen deprived area such as a deep puncture wound, some potent neurotoxins are released. Among them, tetanospasmin has the most important role in the clinical signs. Therefore there is a history of injury or wound in the affected animals. The clinical signs usually appear 4- 21 days after entry of organism. In goats, clinical signs include erect ears, elevated tail, extended and stiff neck, general muscle stiffness, third eye lid prolapse, dysphagia, lock jaw and hyperesthesia. In the later stages, the animal goes to lateral recumbency and deaths results. In this case, unhygienic and septic cutting of umbilicus had practiced just after birth. When some practices such as castration, tail ducking and dehorning are done in dirty and unsanitary conditions tetanus is observed. The main principles in the treatment of tetanus are eliminating the causative bacteria, control muscle spasms until the toxin is eliminated or destroyed, maintain hydration and nutrition and provide supportive treatment (Constable *et al.*, 2017)<sup>[1]</sup>.

Procaine penicillin is given for elimination of the organism from body. Diazepam acts as mild sedative and relaxes

intercostal muscles and diaphragm, resulting in normal respiration whereas Meloxicam act as analgesic and antipyretic (Yousaf *et al.*, 2010)<sup>[6]</sup>. Deriphylline is also given for promotion of normal respiration. Multivitamin was given as nerve tonic and fluid therapy helped in survival of animal as it was not able to consume feed orally due to locked jaw condition as well as for rehydration and neutralization of circulating toxins. The case was treated with the above treatment protocol and clinical improvement was seen on second day onwards after treatment as movement in limbs, improvement in feeding, normal urination & defecation.

### References

1. Constable PD, Hinchcliff KW, Done SH, Grunberg W. Veterinary Medicine: A Textbook of the Diseases of Cattle, Horses, Sheep, Pigs, and Goats, Elsevier. 2017; 11(2):1917.
2. Dhanavel P. Successful treatment of Tetanus in ND Goat – a case report. Vet surgeon OJTVASA, 2012.
3. Mohamad AHS, Syed ARTR. A report of successful treatment of tetanus in a kid. ICLAP, 27-28 Feb, Tehran-Iran, 2013
4. Parmar VL, Prasad A, Patel JS, Javia BB, Barad DB. Clinico-Therapeutic Management of Tetanus in Caprines. Intas Polivet. 2015; 16(2):380-381.
5. Selvam A, Veeapandian K, Vinoth M, Sekar KS, Venkataraman RV, Suresh *et al.* Tetanus in a Buck and its effective treatment: A case report. Indian J. Field Vet. 2009; 5(1).
6. Yousaf A, Ahmad T, Zafar MA, Abbas RZ. Trials on tetanus treatment in beetal goats. Eg. J. Sheep Goat Sci. 2010; 5:341-47.
7. Rashid I, Ahmad J, Sial A, Muhammad G, Saqib M. Tetanus in a surgically castrated Beetal buck: a case report. Matrix Science Pharma. 2017; 1(2):25-26.
8. Samal P, Lakshmi K, Padmaja K. Successful therapeutic management of tetanus in a non descript goat. The Pharma Innovation Journal. 2017; 6(6):202-203.